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Attorney Docket No. 5308-231DV

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: David B. Slater, Jr. et al

Confirmation No.: 9433

Application No.: 10/825,647

Group Art Unit: 2822

Filed: April 15, 2004

Examiner: Amir Zarabian

For: *Methods Of Fabricating Light Emitting Devices Using Mesa Regions And Passivation Layers*

Date: July 6, 2005

Mail Stop Amendment

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

**PURSUANT TO 37 C.F.R. § 1.97(b)**

Sir:

Attached is a list of documents on Form PTO-1449, together with a copy of any listed foreign patent document and/or non-patent literature. A copy of any listed U.S. patent and/or U.S. patent application publication is not provided herewith in accordance with the amendment by the U.S. Patent and Trademark Office to 37 C.F.R. § 1.98(a)(2)(ii) effective October 21, 2004.

This Information Disclosure Statement is submitted in accordance with 37 C.F.R. § 1.97(b), within three months of the filing date of the above-referenced application or before the mailing of a first Office Action on the merits, whichever event occurs last. Therefore, no fee is believed due. However, the Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-0220.

It is requested that these documents be considered by the Examiner and officially made of record in accordance with the provisions of 37 C.F.R. § 1.56 and Section 609 of the MPEP.

Respectfully submitted,

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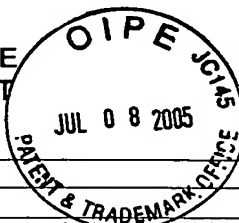
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on July 6, 2005.

  
Sheona L. Donnelly

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

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**Complete if Known**

Application Number	10/825,647
Filing Date	April 15, 2004
First Named Inventor	David B. Slater, Jr.
Group Art Unit	2822
Examiner Name	Amir Zarabian
Attorney Docket Number	5308-231DV

**U.S. PATENTS AND PATENT PUBLICATIONS**

Examiner Initials*	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code (if known)		
	1.	US 2003/0006418	A1	Emerson et al.	01/09/2003
	2.	US-2002/0121642		Doverspike	09/05/2002
	3.	US-2002/0179910		Slater	12/05/2002
	4.	US-4,918,497		Edmond	04/17/1990
	5.	US-4,966,862		Edmond	10/30/1990
	6.	US-5,006,908		Matsuoka et al.	04/09/1991
	7.	US-5,027,168		Edmond	06/25/1991
	8.	US-5,087,949		Haitz	02/11/1992
	9.	US-5,187,547		Niina et al.	02/16/1993
	10.	US-5,210,051		Carter, Jr.	05/11/1993
	11.	US-5,237,182		Kitagawa et al.	08/17/1993
	12.	US-5,247,533		Okazaki et al.	09/21/1993
	13.	US-5,338,994		Lezan et al.	08/16/1994
	14.	US-5,369,289		Tamaki et al.	11/29/1994
	15.	US-5,393,993		Edmond et al.	02/28/1995
	16.	US-5,416,342		Edmond et al.	05/16/1995
	17.	US-5,523,589		Edmond et al.	06/04/1996
	18.	US-5,585,648		Tischler	12/17/1996
	19.	US-5,604,135		Edmond et al.	02/18/1997
	20.	US-5,631,190		Negley	05/20/1997
	21.	US-5,718,760		Carter et al.	02/17/1998
	22.	US-5,739,554		Edmond et al.	04/14/1998
	23.	US-5,760,479		Yang et al.	06/02/1998
	24.	US-5,767,581		Nakamura et al.	06/16/1998
	25.	US-5,777,350		Nakamura et al.	07/07/1998
	26.	US-5,779,924		Krames et al.	07/14/1998
	27.	US-5,846,694		Strand et al.	12/08/1998
	28.	US-5,912,477		Negley	06/15/1999
	29.	US-5,917,202		Haitz et al.	06/29/1999
	30.	US-5,952,681		Chen	09/14/1999
	31.	US-6,015,719		Kish, Jr. et al.	01/18/2000
	32.	US-6,031,243		Taylor	02/29/2000
	33.	US-6,046,465		Wang et al.	04/04/2000
	34.	US-6,091,085		Lester	07/18/2000
	35.	US-6,097,041		Lin et al.	08/01/2000
	36.	US-6,118,259		Bucks et al.	09/12/2000
	37.	US-6,120,600		Edmond et al.	09/19/2000
	38.	US-6,121,636		Morita et al.	09/19/2000
	39.	US-6,121,637		Isokawa et al.	09/19/2000
	40.	US-6,133,589		Krames et al.	10/17/2000
	41.	US-6,139,166		Marshall et al.	10/31/2000
	42.	US-6,147,458		Bucks et al.	11/14/2000
	43.	US-6,169,294	B1	Biing-Jye et al.	01/02/2001
	44.	US-6,177,688	B1	Linthicum et al.	01/23/2001
	45.	US-6,187,606	B1	Edmond et al.	02/13/2001
	46.	US-6,194,742	B1	Kern et al.	02/27/2001
	47.	US-6,201,264	B1	Khare et al.	03/13/2001
	48.	US-6,204,523	B1	Carey et al.	03/20/2001
	49.	US-6,222,207	B1	Carter-Coman et al.	04/24/2001
	50.	US-6,229,160	B1	Krames et al.	05/08/2001
	51.	US-6,346,771	B1	Salam	02/12/2002
	52.	US-6,455,878	B1	Bhat et al.	09/24/2002
	53.	US-6,459,100	B1	Doverspike et al.	10/01/2002

Examiner Signature

Date Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	10/825,647
		Filing Date	April 15, 2004
		First Named Inventor	David B. Slater, Jr.
		Group Art Unit	2822
		Examiner Name	Amir Zarabian
Sheet	Page 2 of 3	Attorney Docket Number	5308-231DV

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	54.	US-6,791,119	B2	Slater, Jr. et al.	09/14/2004
	55.	US-6,803,243	B2	Slater, Jr. et al.	10/12/2004
	56.	US-6,884,644	B1	Slater, Jr. et al.	04/26/2005

FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Translation
		Office	Number	Kind Code (if known)			
	57.	EP	1 168 460	A2	Kabushiki Kaisha Toshiba	01/02/2002	
	58.	EP	0 961 328	A2	Sumitomo Electric Industries, Ltd.	12/01/1999	
	59.	EP	0 951 055	A2	Hewlett-Packard Company	10/20/1999	
	60.	EP	0 051 172		Siemens Aktiengesellschaft	12/12/1981	
	61.	GB	2 346 480	A	Agilent Technologies Inc.	08/09/2000	
	62.	JP	2000-195827	A2	Oki Electric Ind Co Ltd	07/14/2000	Abstract
	63.	JP	2000-77713	A	Tottori Sanyo Electric Co Ltd	03/14/2000	Abstract
	64.	JP	11-220168	A	Toyoda Gosei Co Ltd	08/10/1999	Abstract
	65.	JP	11-191641	A	Matsushita Electron Corp.	07/13/1999	Abstract
	66.	JP	11-150302	A	Nichia Chem Ind Ltd	06/02/1999	Abstract
	67.	JP	10-256604	A2	Rohm Co Ltd	09/25/1998	Abstract
	68.	JP	10-233549		Nichia Chem Ind Ltd	09/02/1998	Abstract
	69.	JP	10-163530		Nichia Chem Ind Ltd	06/19/1998	Abstract
	70.	JP	09-223846		Nichia Chem Ind Ltd	08/26/1997	Abstract
	71.	JP	9-82587		Hewlett Packard Co	03/28/1997	Abstract
	72.	JP	08-321660		Nichia Chem Ind Ltd	12/03/1996	Abstract
	73.	JP	07-235729		Nichia Chem Ind Ltd	09/05/1995	Abstract
	74.	JP	06-232510		Nichia Chem Ind Ltd	08/19/1994	Abstract
	75.	JP	1-225377	A2	Mitsubishi Cable Ind Ltd	09/08/1989	Abstract
	76.	JP	61110476		NEC Corp.	05/28/1986	Abstract
	77.	JP	56-131977	A2	Sanyo Electric Co Ltd	10/15/1981	Abstract
	78.	WO	00/33365	A1	North Carolina State University	06/08/2000	

OTHER NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published		
	79.	Biederman, <i>The Optical Absorption Bands and Their Anisotropy in the Various Modifications of SiC</i> , Solid State Communications, Vol. 3, 1965, pp. 343-346		
	80.	Craford, <i>Outlook for AlInGaP Technology</i> , Presentation, Strategies in Light 2000		
	81.	Craford, <i>Overview of Device Issues in High-Brightness Light-Emitting Diodes</i> , Chapter 2, <i>High Brightness Light Emitting Diodes: Semiconductors and Semimetals</i> , Vol. 48, Stringfellow et al. ed., Academic Press, 1997, pp. 47-63		
	82.	Honma et al., <i>Evaluation of Barrier Metals of Solder Bumps for Flip-Chip Interconnection</i> , Electronic Manufacturing Technology Symposium, 1995, Proceedings of 1995 Japan International, 18 <sup>th</sup> IEEE/CPMT, December 4, 1995, pp. 113-116		
	83.	International Search Report, PCT/US02/02849, 12/02/2002		
	84.	International Search Report, PCT/US02/23266, 05/22/2003		
	85.	Invitation to Pay Additional Fees, Annex to Form PCT/ISA/206, Communication Relating to the Results of the Partial International Search, PCT/US02/02849, August 26, 2002		
	86.	Krames et al., <i>High-Power Truncated-Inverted-Pyramid (Al<sub>x</sub>Ga<sub>1-x</sub>)<sub>0.5</sub>In<sub>0.5</sub>P/GaP Light-Emitting Diodes Exhibiting &gt;50% External Quantum Efficiency</i> , Applied Physics Letters, Vol. 75, No. 16, October 18, 1999, pp. 2365-2367		
	87.	Lambrecht et al., <i>Band Structure Interpretation of the Optical Transitions Between Low-Lying Conduction Bands in n-Type Doped SiC Polytypes</i> , Materials Science Forum, Vols. 264-268, 1998, pp.		

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		271-274	
	88.	Lee et al., <i>Bonding of InP Laser Diodes by Au-Sn Solder and Tungsten-Based Barrier Metallization Schemes</i> , Semiconductor Science and Technology, Vol. 9, No. 4, April 1994, pp. 379-386	
	89.	Mensz et al., <i>In<sub>x</sub>Ga<sub>1-x</sub>N/Al<sub>y</sub>Ga<sub>1-y</sub>N Violet Light Emitting Diodes With Reflective p-Contacts for High Single Sided Light Extraction</i> , Electronics Letters, Vol. 33, No. 24, November 20, 1997, pp. 2066-2068	
	90.	OSRAM Enhances Brightness of Blue InGaN LEDs, Compound Semiconductor, Volume 7, No. 1, February 2001, p. 7	
	91.	U.S. Application Serial No. 09/787,189, filed 03/15/2001, <i>Low Temperature Formation of Backside Ohmic Contacts for Vertical Devices</i>	
	92.	U.S. Application Serial No. 60/265,707, filed 02/01/2001, entitled <i>Light Emitting Diode With Optically Transparent Silicon Carbide Substrate</i>	
	93.	U.S. Application Serial No. 60/294,308, filed 05/30/2001, <i>Light Emitting Diode Structure With Superlattice Structure</i>	
	94.	U.S. Application Serial No. 60/294,378, filed 05/30/2001, <i>Light Emitting Diode Structure With Multi-Quantum Well and Superlattice Structure</i>	
	95.	U.S. Application Serial No. 60/294,445, filed 05/30/2001, <i>Multi-Quantum Well Light Emitting Diode Structure</i>	
	96.	U.S. Application Serial No. 60/307,235, filed 07/23/2001, <i>Light Emitting Diodes Including Modifications for Light Extraction and Manufacturing Methods Therefor</i>	
	97.	U.S. Application Serial No. 60/411,980, filed 09/19/02, <i>Phosphor-Coated Light Emitting Diodes Including Tapered Sidewalls, and Fabrication Methods</i>	
	98.	Yoo et al., <i>Bulk Crystal Growth of 6H-SiC on Polytype-Controlled Substrates Through Vapor Phase and Characterization</i> , Journal of Crystal Growth, Vol. 115, Vol. 1991, pp. 733-739	

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